

## Abstract

Slight camera movement between when successive images are captured is advantageously utilized to minimize or eliminate the need to interpolate in order to fill in the “holes” in a Bayer pattern. The captured color values from multiple appropriately positioned images are used to fill in the “holes” in a Bayer pattern. For example, instead of interpolating the value of red for the second pixel position on the first row of a Bayer pattern, an image is selected which is positioned one pixel to the right of the first image, and the red values from this image are used for the red values of the second pixel on the first line. The value of the pixels in multiple images which are appropriately aligned to each pixel position are averaged to generate a better value for each pixel position. Information carried by a digital watermark (either alone or together with other techniques) is used to determine the alignment of the images. Images are selected which are positioned so that corresponding pixels fall within a specified tolerance from a location in a Bayer pattern. The pixel values of the images which fall within the specified tolerance of each pixel position in a Bayer pattern are selected and used for the alignment.